SHARP®

SHARP VISION™

LCD PROJECTOR
LCD-PROJEKTOR
PROJECTEUR LCD
VIDEOPROJEKTOR

PROYECTOR DE LCD
PROIETTORE LCD
LCD-PROJEKTOR
液晶投射放影機

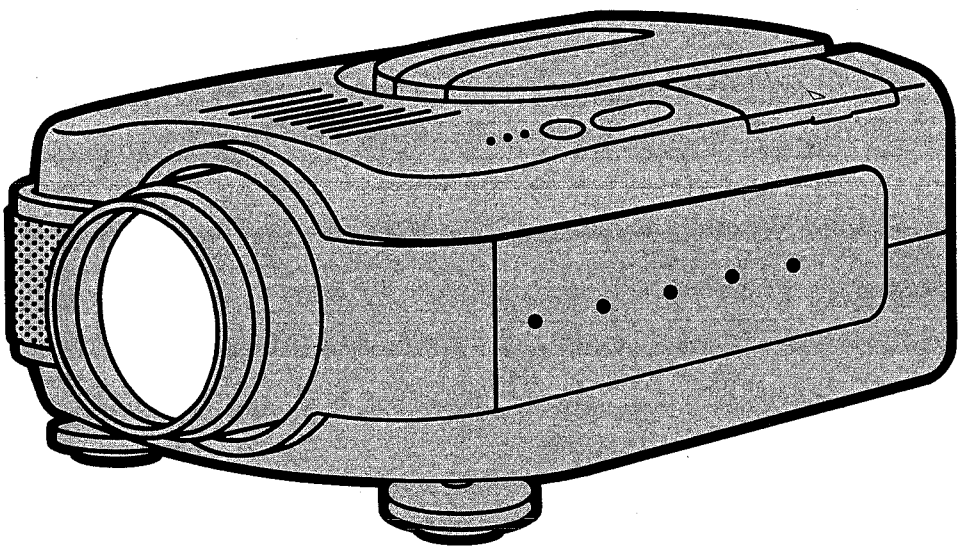
Model Modelo
Modell Modello
Modèle Model
Modell 機型

XV-310P

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING

MANUAL DE MANEJO
MANUALE DI ISTRUZIONI
GEBRUIKSAANWIJZING
使用說明書

- ENGLISH E
- DEUTSCH D
- FRANÇAIS F
- SVENSKA SV
- ESPAÑOL ES
- ITALIANO I
- NEDERLANDS N
- 中文 C



Dear SHARP Customer

Welcome to the SHARP Family. We are pleased that you are now the owner of a SHARP Colour LCD Projector—built for outstanding quality, reliability and performance.
Every SHARP Colour LCD Projector is tuned and adjusted to produce proper colour pictures and has passed through the most stringent quality control tests at the factory. We have prepared this OPERATION MANUAL so that you may adjust the picture and colour to your personal viewing preference. We sincerely hope that you will receive the utmost convenience and satisfaction from your new SHARP Colour LCD Projector for years to come.
Please read these instructions carefully, and keep them handy for future reference.

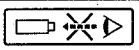
IMPORTANT

For your assistance in reporting this Colour LCD Projector in case of loss or theft, please record the Model Number and Serial Number and retain this information. The model number, power rating, and warnings are displayed on the base of the unit.

Model No.:

Serial No.:

Important Information

WARNING 
Intense light source, do not look into the beam or view it directly. Be especially careful that children do not look directly into the beam.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO LIQUIDS.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE CABINET. NO USER-SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Features

- PAL/SECAM/NTSC3.58/NTSC4.43 colour systems. Switching is performed automatically.
- High-quality 9.1 cm (3.6 inch) twin-TFT LCD panel.
- Screen size adjusts to room size 76 to 152 cm (30 to 60 inches)
- Can be projected directly onto a white screen or white wall.
- Light-weight, convergence-free system for easy installation.
- Newly-developed, high-reliability, high-contrast (100:1) LCD panel.
- Built-in speaker provides convenient sound source.
- Equipped with input terminals for two video systems, one S-video system (priority input), and two audio systems.

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This apparatus complies with the requirements of EN 55014, 02. 1987.

Dieses Gerät stimmt mit den Bedingungen der EN 55014, 02. 1987 überein.

Cet appareil répond aux spécifications de la EN 55014, 02. 1987.

Dit apparaat voldoet aan de vereiste EN 55014, 02. 1987.

Apparatet opfylder kravene i EN 55014, 02. 1987.

Questo apparecchio è stato prodotto in conformità alle EN 55014, 02. 1987.

Este aparato comple las especificaciones de la EN 55014, 02. 1987.

Este aparelho responde às especificações da EN 55014, 02. 1987.

Αύτή ή ουοχευή τηρεί τίς προσιαγραφές τΐiw EN 55014, 02. 1987.

IMPORTANT SAFEGUARDS

CAUTION: Please read all of these instructions before you operate your LCD Projector. Save these instructions for future reference.

Dear Customer
Thank you very much for Purchasing a Sharp LCD Projector. For your own protection and prolonged operation of your LCD Projector, please be sure to read the following "Important Safeguards" carefully, before use.

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated into this LCD Projector, observe the following basic rules for its installation, use and servicing.

1 Unplug the LCD Projector from the wall outlet before cleaning.

2 Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

3 Do not use attachments not recommended by the LCD Projector manufacturer as they may cause hazards.

4 Do not use the LCD Projector near water, for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc. Never spill liquid into the projector.

5 Do not place this LCD Projector on an unstable cart, stand, or table. The LCD Projector may fall, which may cause serious injury to a child or an adult, and/or serious damage to the unit.

6 Ceiling, wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

7 LCD Projector equipment and cart combinations should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

8 To ensure reliable operation of the LCD Projector and to protect it from overheating, these openings must not be blocked or covered. Slots and openings in the cabinet back and bottom are provided for ventilation.

9 The openings should never be covered with cloth or other material. The bottom opening should not be blocked by placing the LCD Projector on a bed, sofa, rug, or other similar surfaces. This LCD Projector should never be placed near or over a radiator or heating vent. This LCD Projector should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

10 The LCD Projector should be operated only from the type of power source indicated on the back of the projector or in the specifications. If you are not sure of the type of power supplied to your home, consult your LCD Projector dealer or local power company.

11 Do not allow anything to rest on the power cord. Do not place the LCD Projector where the cord will be abused by persons walking on it.

12 Follow all warnings and instructions marked on the LCD Projector.

13 To prevent damage to the projector due to lightning and power-line surges, unplug the projector from the power outlet.

14 Do not overload wall outlets and extension cords with too many products, because this can result in fire or electric shock.

15 Never push objects of any kind into the LCD Projector through cabinet slots touching in voltage points or a short circuit could result in a fire or electric shock.

16 Do not attempt to service the LCD Projector yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17 Unplug the LCD Projector equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power cord or plug is damaged or frayed.
B. If liquid has been spilled into the LCD Projector.
C. If the LCD Projector has been exposed to rain or water.
D. If the LCD Projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may cause damage and will often require extensive work by a qualified technician to restore the LCD Projector to normal operation.
E. If the LCD Projector has been dropped or the cabinet has been damaged.
F. When the LCD Projector exhibits a distinct change in performance - this indicates a need for service.

18 Upon completion of any service or repairs to the LCD Projector, ask the service technician to perform routine safety checks to determine that the LCD Projector is in safe operating condition.

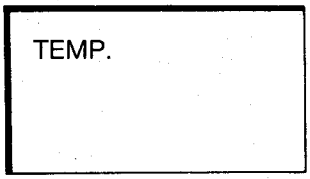
19 When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

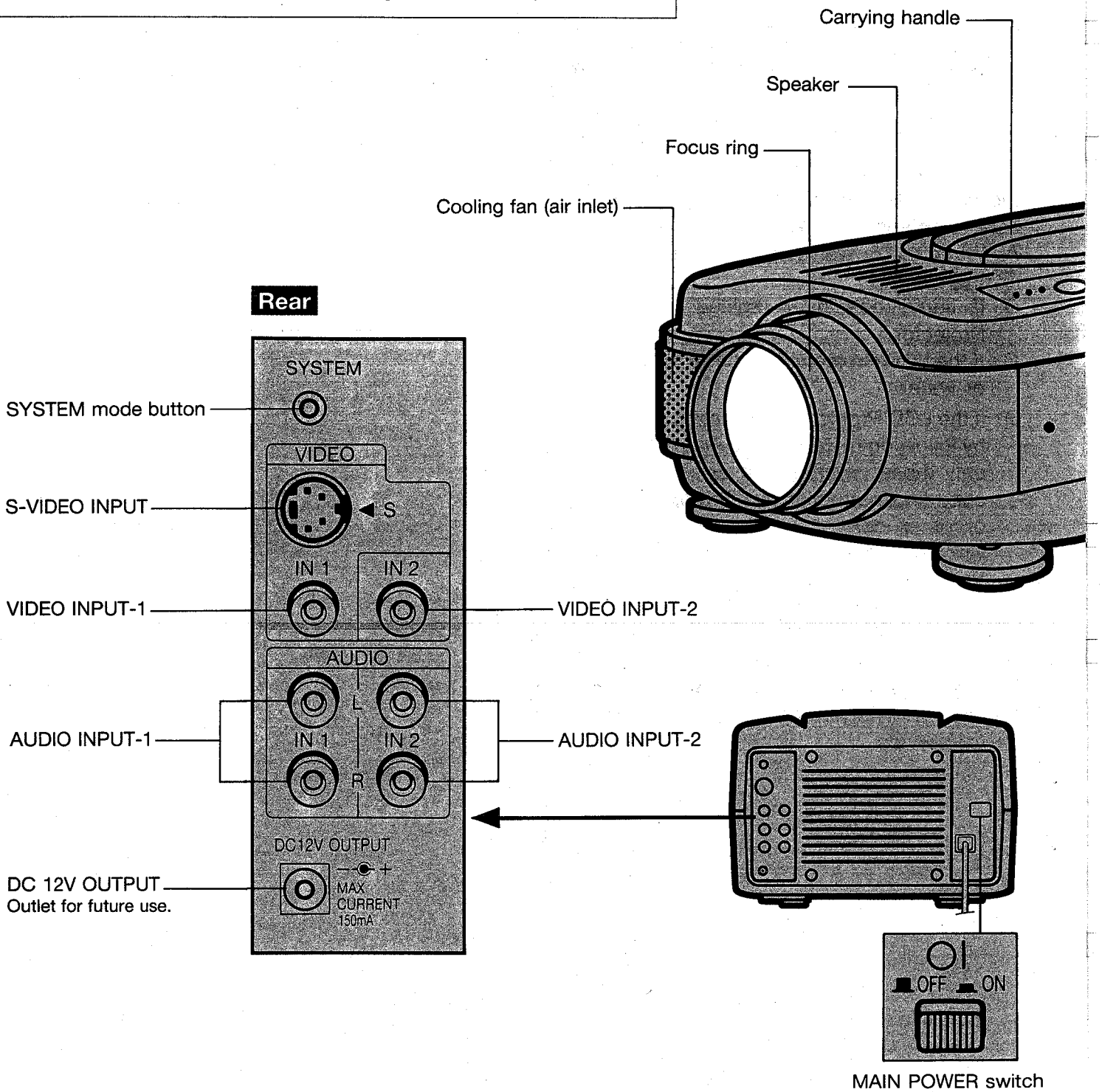
Location of Controls

About the Temperature Monitor Function:

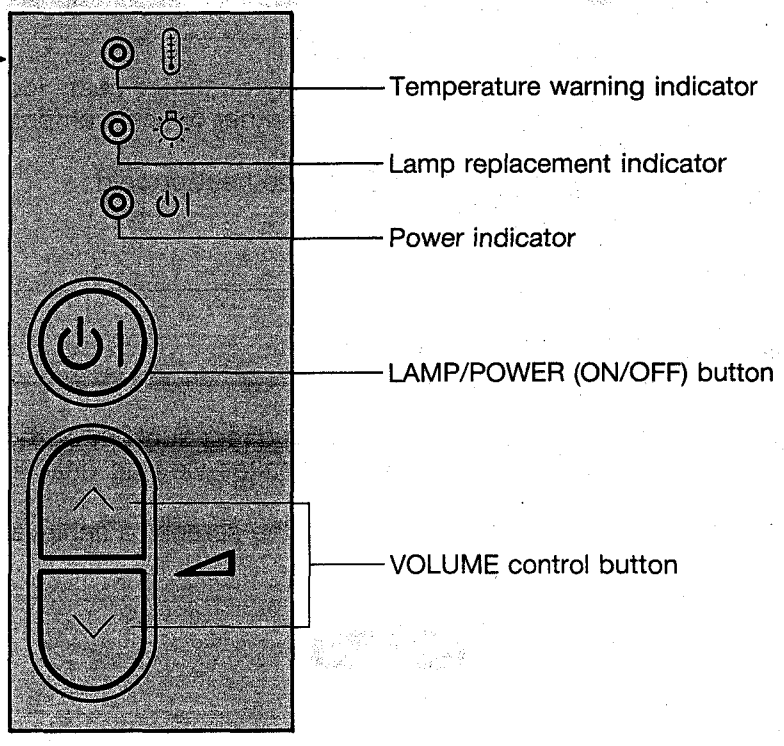
- If the projector starts to overheat due to set-up problems or a dirty filter, "TEMP" will flash in the upper-left portion of the picture. If the temperature continues to rise, then the Temperature Monitor Indicator will turn on and the power will shut off, refer to page 19, "Warning lamps", when the warning appears in the picture.
- The Cooling Fan regulates the internal temperature and its performance is automatically controlled. The sound of the fan may change during operation due to changes in the fan speed.

ON SCREEN DISPLAY

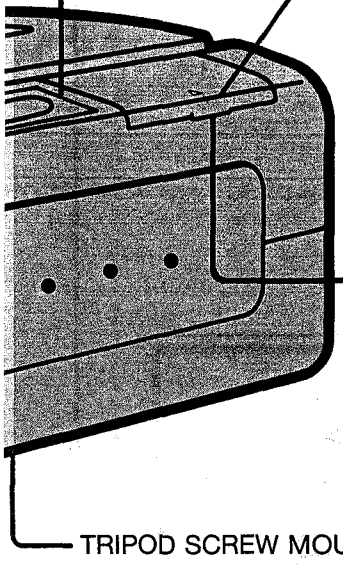




Top control



Place a finger under the "△" portion and lift.

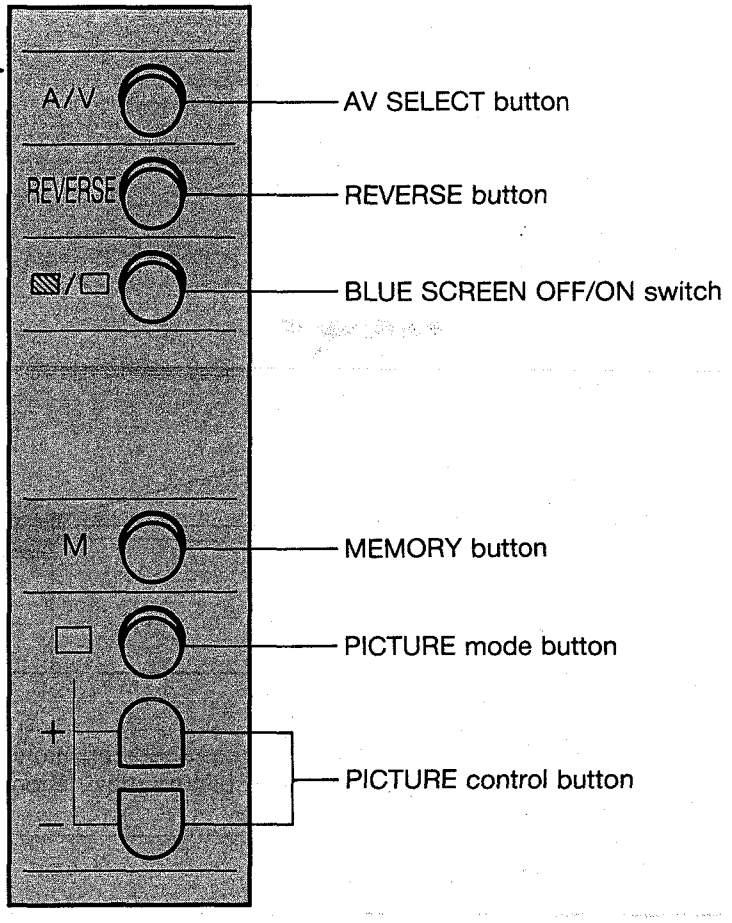


TRIPOD SCREW MOUNT (Bottom)

Tripod
Choose a tripod that is sturdy enough to support the full weight of the set (20 kg [44 lbs]).

Caution:
- Do not use a small tripod, since it will not be able to reliably support the set.
- Inquiries should be directed to your local Sharp dealer or Sharp Service Station.

Controls inside cover



Setting Up the Projector

Installation precautions

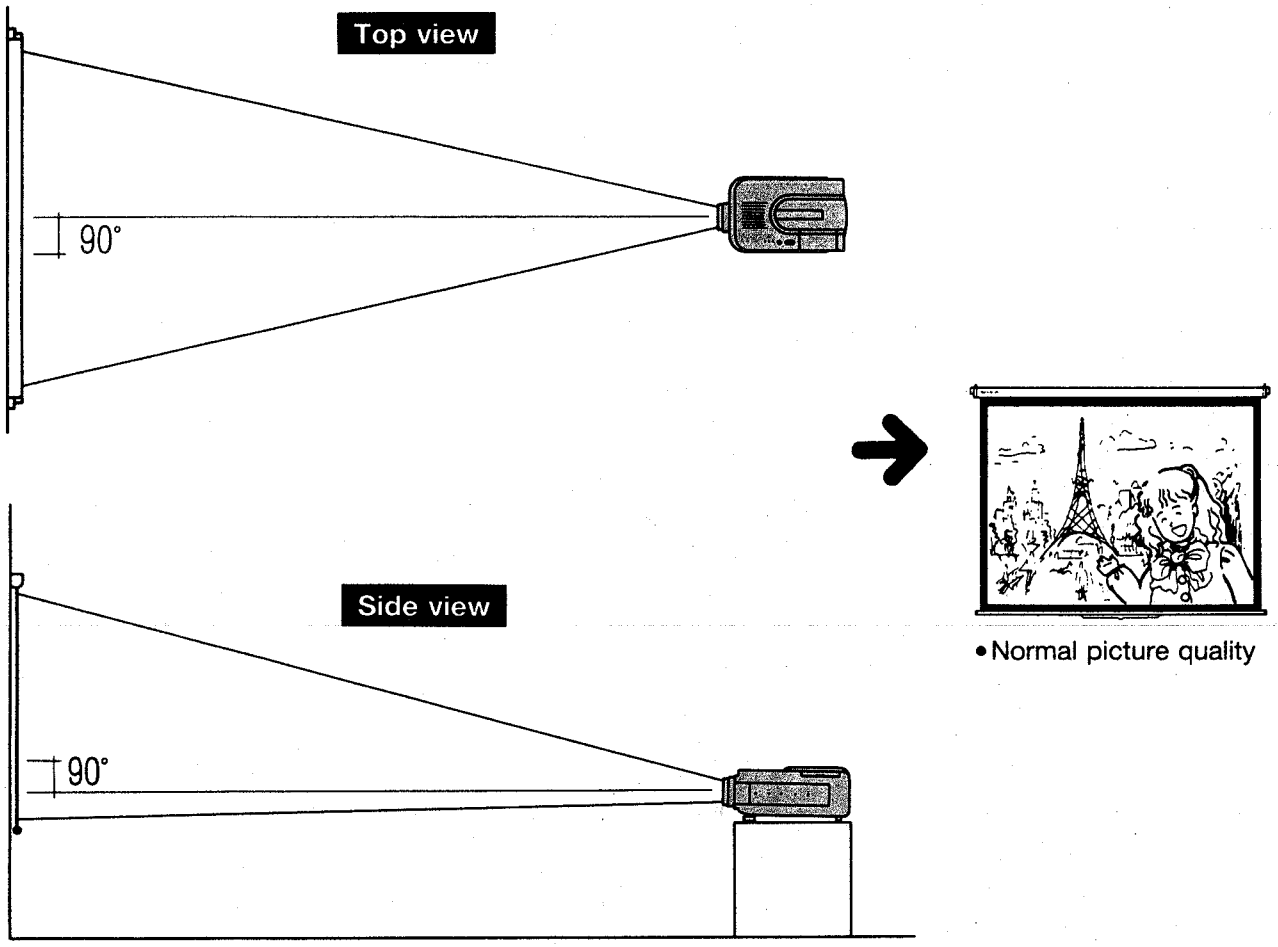
Do not place the projector in excessively humid or dusty locations or in location exposed to soot or cigarette smoke. If the lens, mirror or other optical component become dirty, the picture will blur or darken, making viewing difficult.

- Do not expose the projector to extreme heat or cold.
  Operating temperature: 5°C~40°C
  Storage temperature: −20°C~55°C

Example of a standard setup

■ Position the screen so that it is not in direct sunlight or room light. Light falling directly onto the screen turns the screen white and makes viewing difficult. Close the curtains when using the screen in a bright room.

■ Place the projector at a 90° angle to the screen to achieve optimum viewing quality.



• Normal picture quality

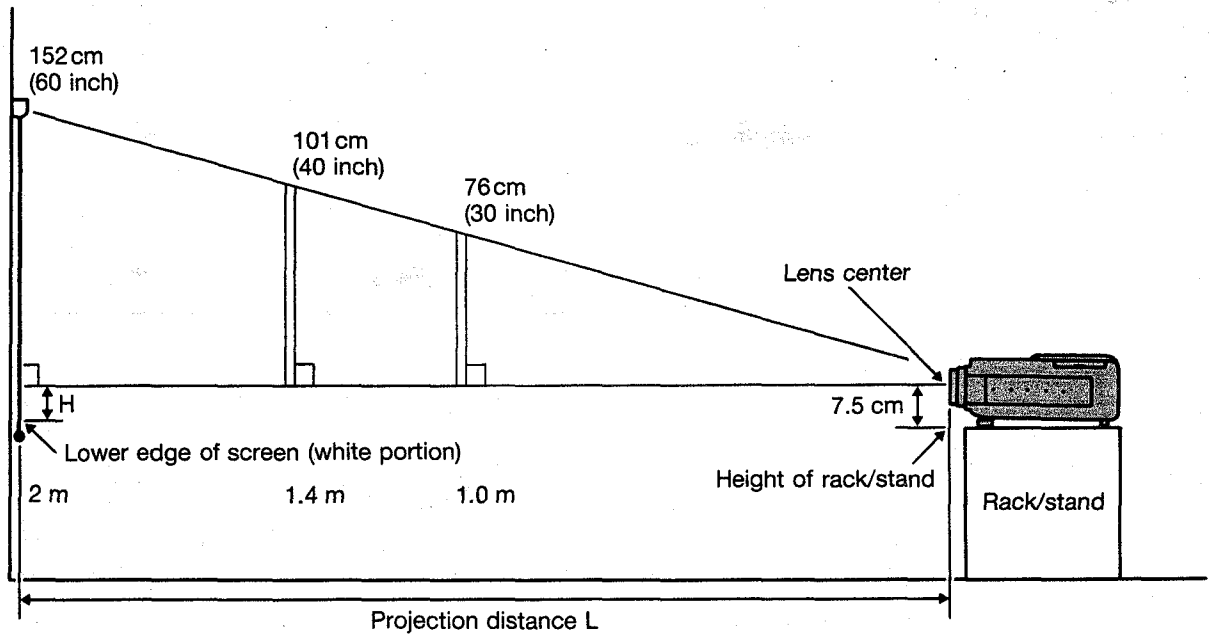
If the screen and projector are not properly positioned with respect to one another, the picture may become distorted and difficult to view.

■ The zoom lens makes it possible to freely adjust the image to the screen size within the range of the lens.
■ The projection distance of the lens is 1 m~4 m. The distance between the projector and the screen should be within this range.

Relation between projection distance and screen size

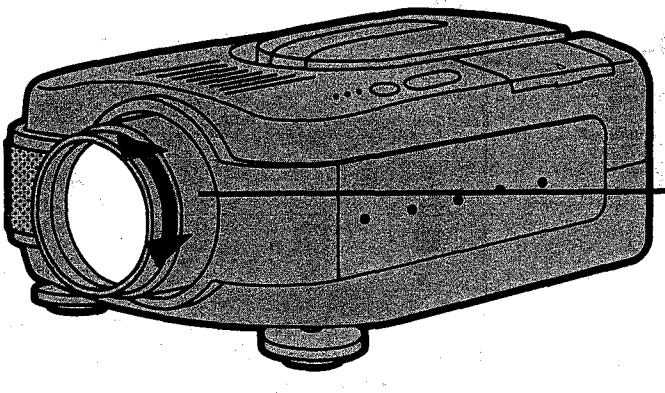
Screen size (diagonal)	Projection distance L	Distance from lens center to lower edge of screen (H)
152 cm (60 inch)	2.0 m	23 cm
101 cm (40 inch)	1.4 m	16 cm
76 cm (30 inch)	1.0 m	12 cm

Height of projector



■ After positioning the projector, adjust the focus as shown.

Focusing



■ Focus the lens so that the screen image is as sharp as possible.

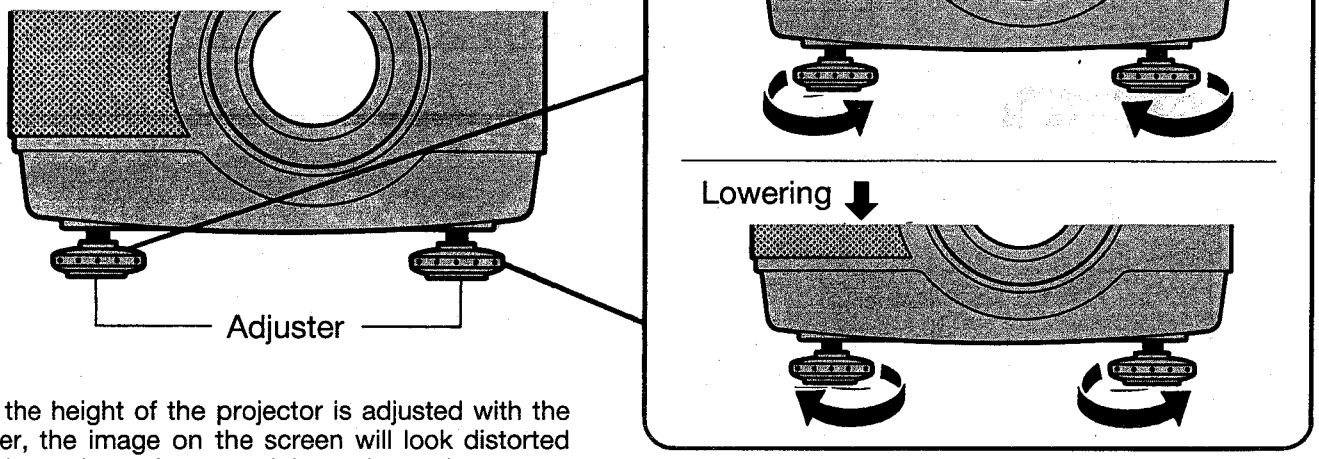
Turn the focus ring to focus the image.

Setting Up the Projector

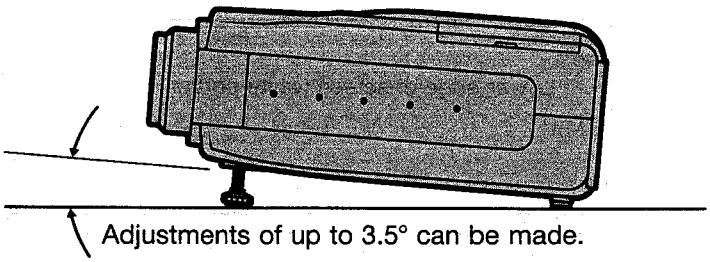
Levelling and height adjustments

■ Use the adjuster at the bottom of the projector to adjust the height of the projector.

Front view



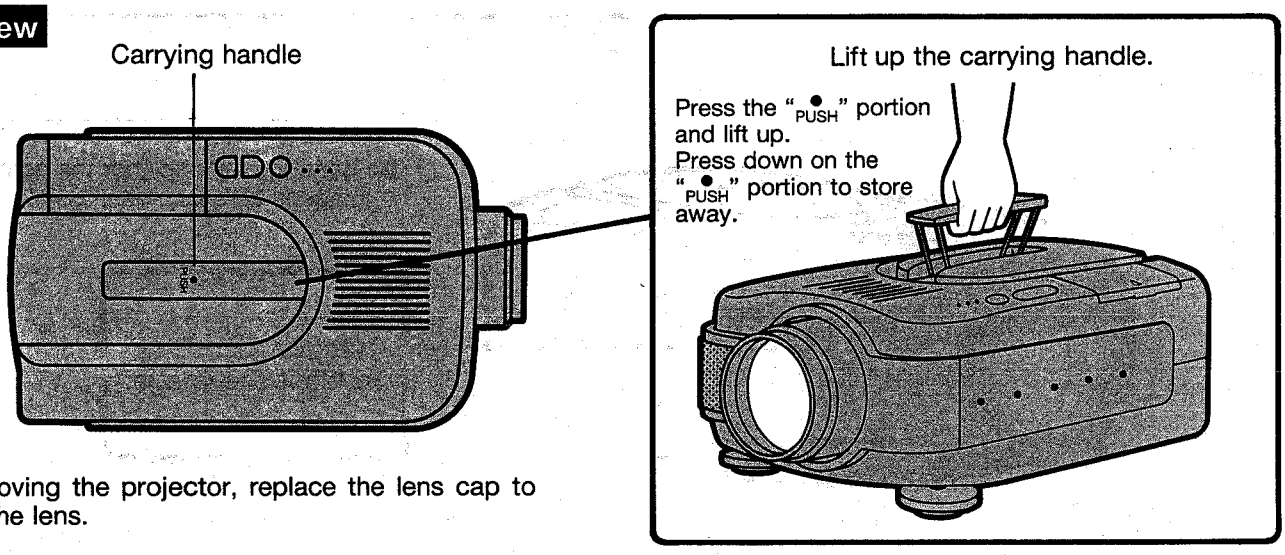
When the height of the projector is adjusted with the adjuster, the image on the screen will look distorted since the projector is not at right angles to the screen.



When moving the projector

■ Use the carrying handle when moving the projector.

Top view


Carrying handle
Lift up the carrying handle.
Press the "● PUSH" portion and lift up.
Press down on the "● PUSH" portion to store away.

When moving the projector, replace the lens cap to protect the lens.

Connecting the Projector

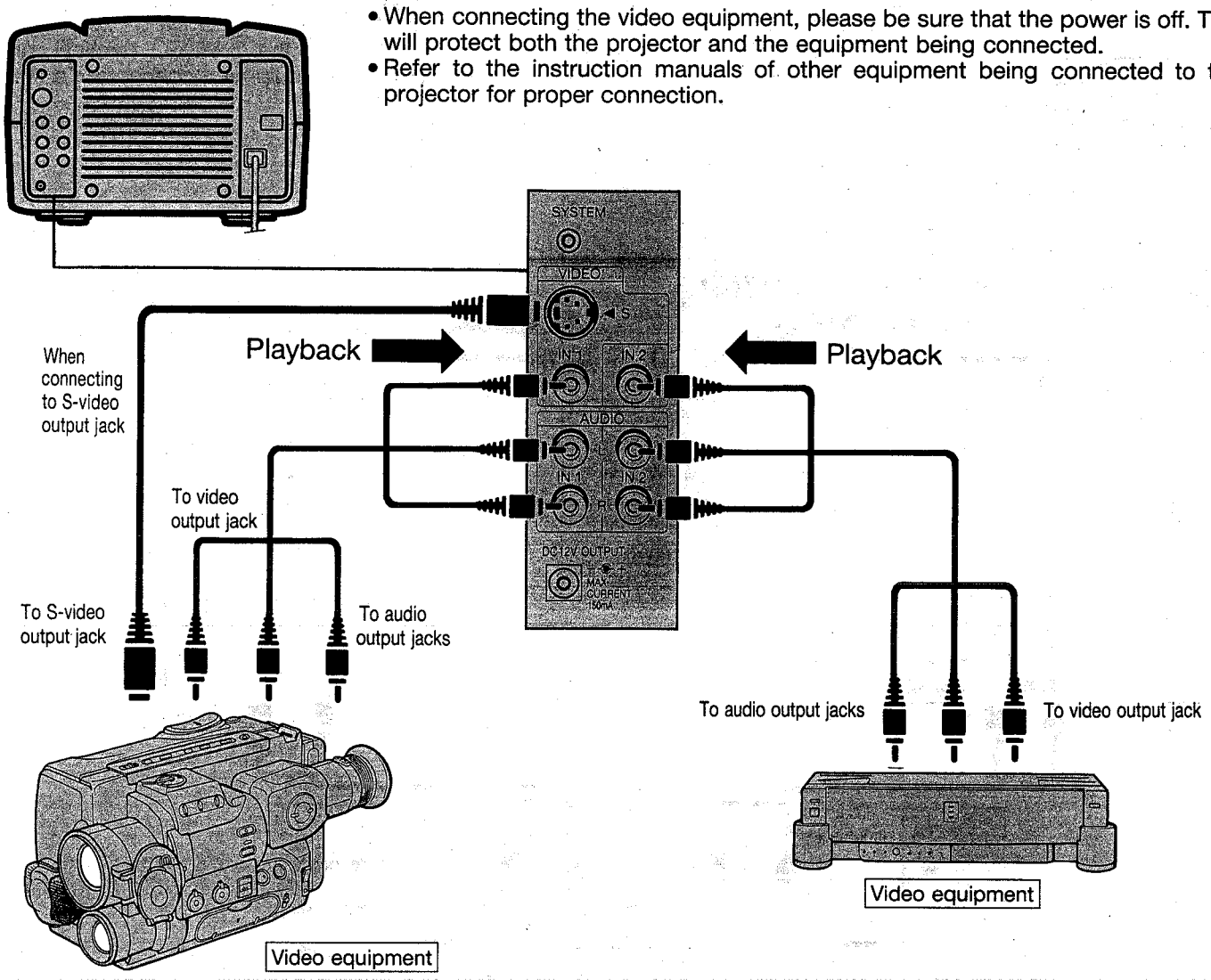
SYSTEM 1

To connect the projector to video equipment for viewing played-back images.

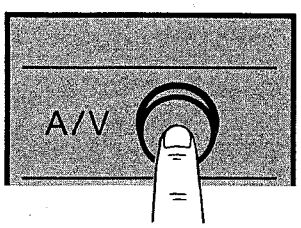
Rear

Notes:

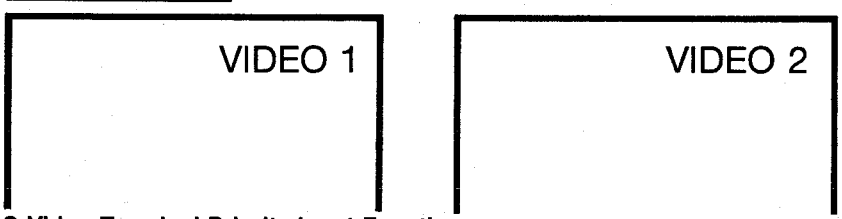
- When connecting the video equipment, please be sure that the power is off. This will protect both the projector and the equipment being connected.
- Refer to the instruction manuals of other equipment being connected to the projector for proper connection.



Use the A/V SELECT button to select either VIDEO 1 or VIDEO 2.



On Screen Display



S-Video Terminal Priority Input Function

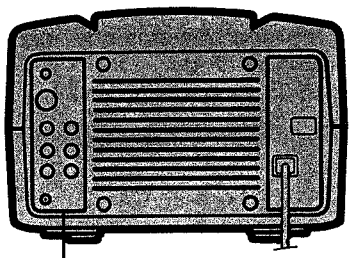
The Video Input 1 and S-video input terminals on this projector are set up to give priority to input from the S-video terminal.

- When video equipment is connected to both terminals, the video image from the S-video input terminal is shown on the screen.
- To view video input from video equipment connected to the Video Input 1 terminal, disconnect the plug from the S-video terminal.

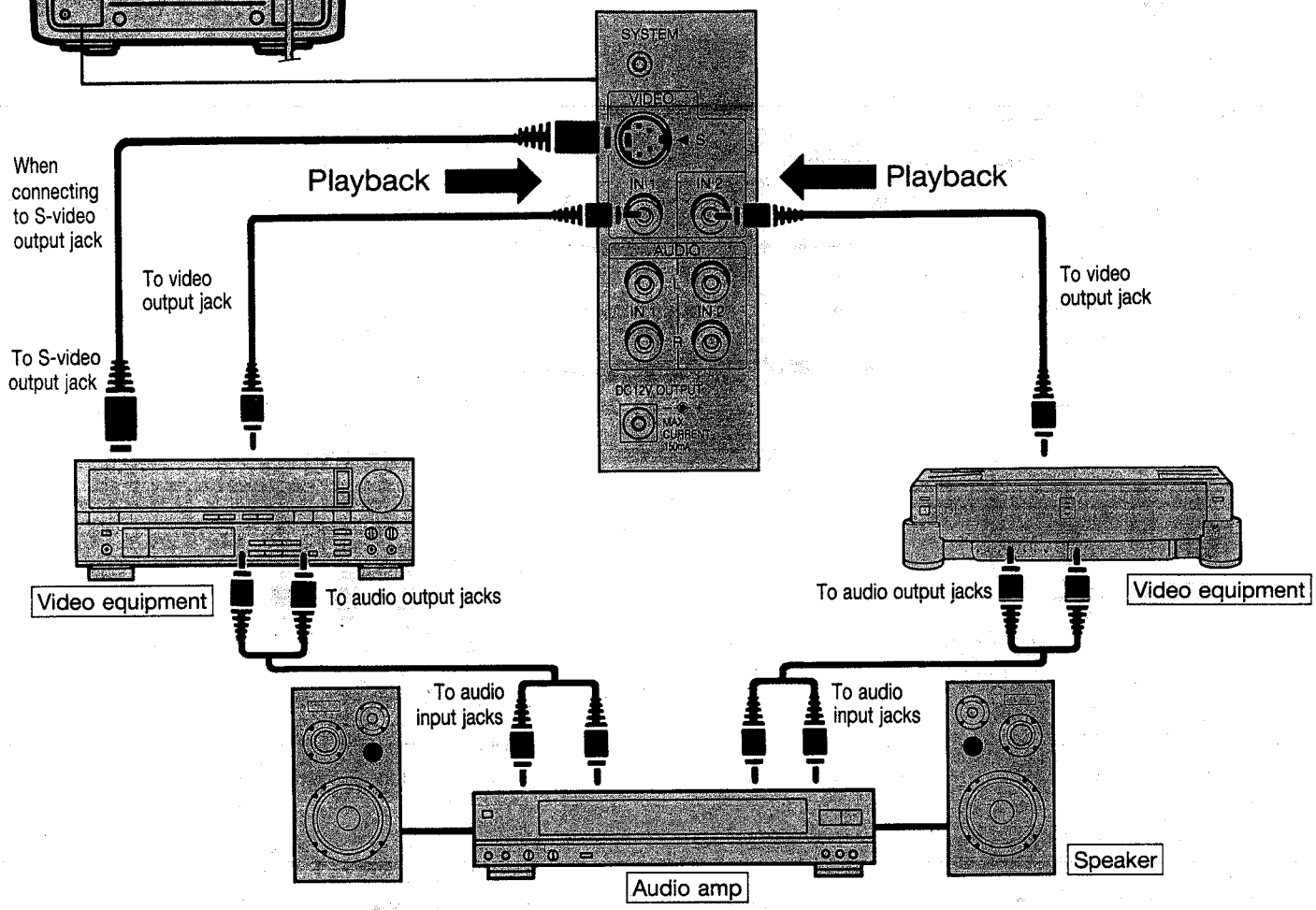
SYSTEM 2

To connect the projector to video and audio equipment for viewing played-back images. (With an audio amplifier connection.)

Rear Terminals



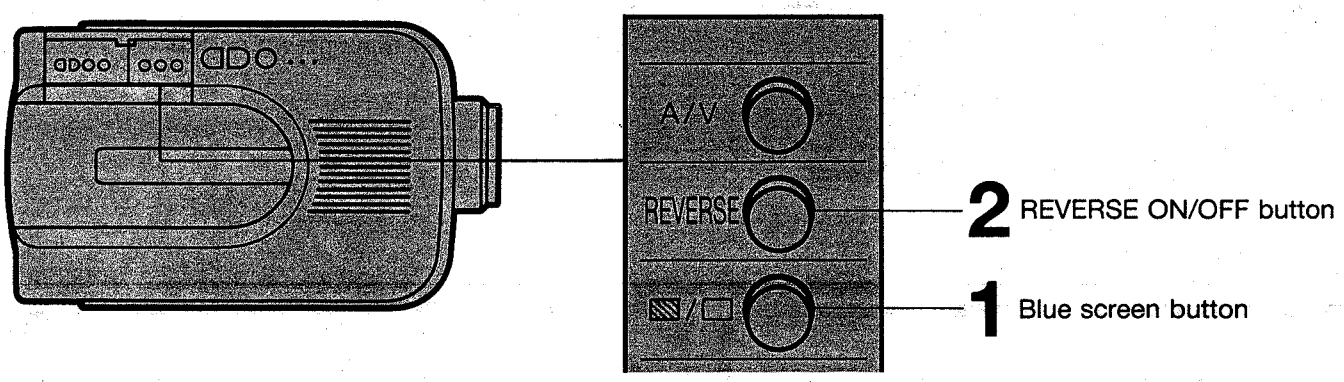
- When connecting equipment with an S-video output, such as an S-VHS VCR, and one or more video decks to an AV amplifier, connect up both the S-VIDEO terminal and the VIDEO-2 JACK on the projector.
- Use the the VIDEO SELECT button to select either S-VIDEO INPUT to watch played-back images from equipment connected to the S-VIDEO terminal, or VIDEO INPUT 2 to watch played-back images from equipment connected to the VIDEO-2 terminal.



Other Functions

■ When the BLUE SCREEN function is turned ON, the screen will turn blue when there is no video signal input to the projector.
■ Press the BLUE SCREEN button once more to turn the BLUE SCREEN function OFF.

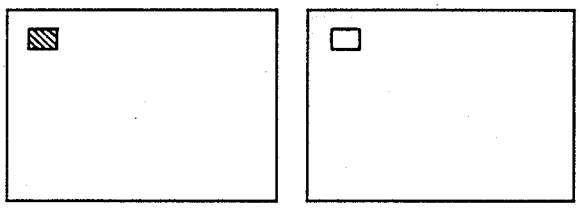
Controls inside cover



1 Blue screen function

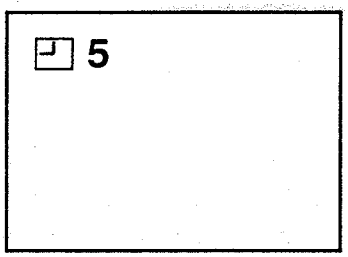
- When the Blue Screen button is set to ▨/□ (ON/OFF), the following display is shown for a few seconds on your screen.

Screen display



(ON) (OFF)

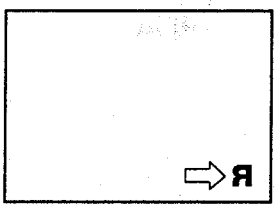
- When the BLUE SCREEN button is set to the ▨ (ON) position, the screen turns blue when no signal or noise is input. (If the Blue Screen function is engaged for over 15 minutes, the AUTO OFF function engages and power is automatically turned off. Five minutes before the power turns off, the remaining time (in minutes) is displayed at one-minute intervals in the top left of the screen.)



2 Reversing the image

- When the REVERSE ON/OFF button is set to REVERSE mode, the following display is shown for a few seconds on your screen.

Screen display

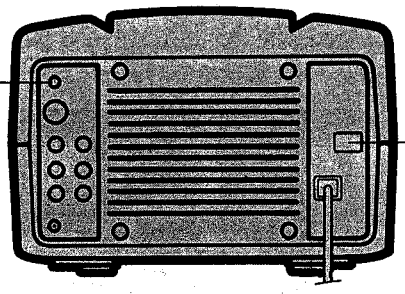


(ON)

- When a mirror or reverse image is required for an application such as rear projection, the REVERSE image switch can be used.
Press the reverse image button. The image on the screen will flip to a mirror image of the input video signal. Press the button again and the image will return to its normal appearance.

Using the Projector

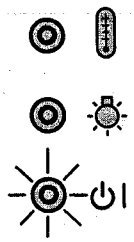
Rear view



1 Turning on the main power switch

Set the Main Power switch to ON.

- When you are using the projector for the first time or when the power indicator lamp is off, set the main power switch to ON. (Indicator lights red.)
- The power indicator lamp turns off when the main power switch is set to off.

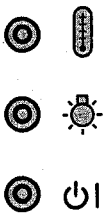


Indicator off:
Main Power switch is set to OFF
Indicator lights red:
Standby status
Indicator lights green:
Projector lamp on

2 Turning on the lamp power

Press LAMP/POWER (ON/OFF) button

Green: Lamp on
Flashing green light: Lamp is being warmed up
Red: Lamp should be replaced
See page 19, "Warning lamps" for details.

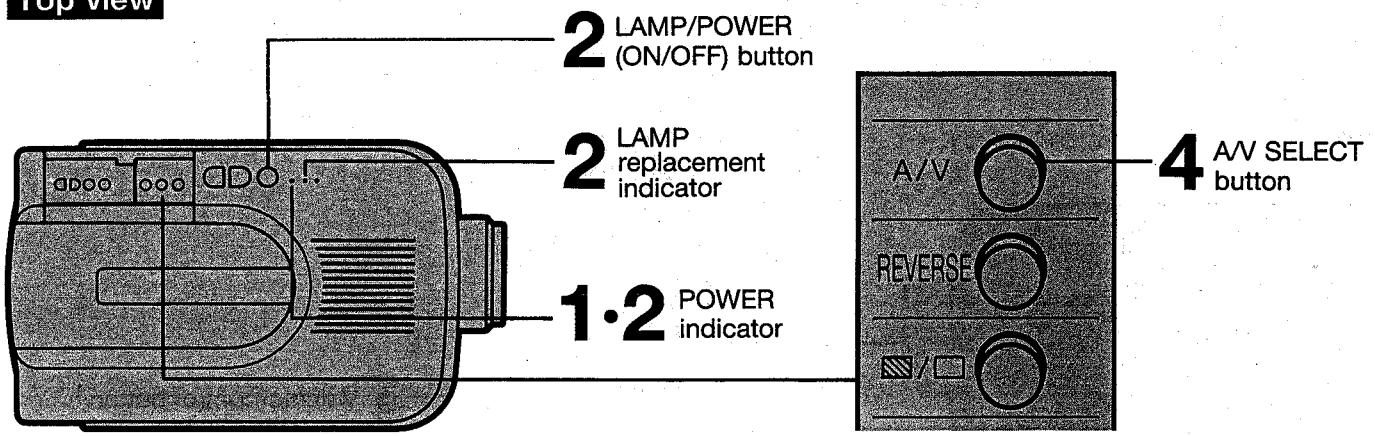


The indicator turns green.

Notes:

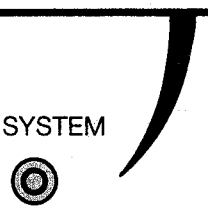
- Even when the power is turned off using the POWER button, the COOLING FAN will continue to operate as long as the projector's internal temperature remains high (about 90 seconds). Do not disconnect the AC power cord plug while the COOLING FAN is operating.
- If the projector is turned on immediately after it has been turned off, it may take a short while before the lamp is turned on. (During this period the Lamp Monitor indicator flashes green.)

Top view

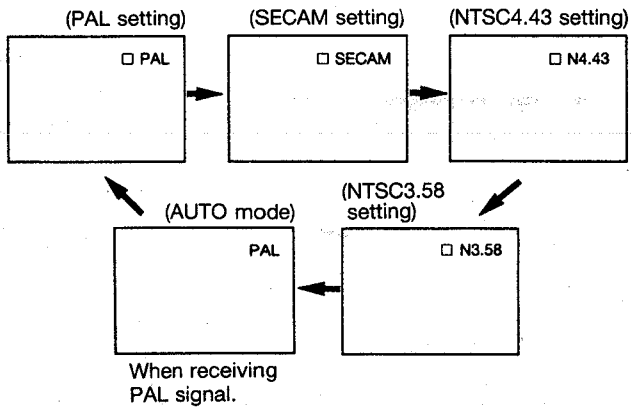


3 System change

Press SYSTEM mode button.



- When the button is pressed, the select COLOR system is displayed in the top right corner of the screen for about a few seconds.



*In Auto mode, "PAL", "SECAM", "NTSC4.43" or "NTSC3.58" is displayed on the screen for about a few seconds when modes are automatically changed.

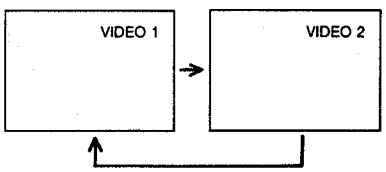
4 A/V Select

Press the A/V SELECT button.

- **A/V button on the projector operator panel**
  The indication is cycled as shown below when the button is pressed.

VIDEO 1 ⟶ VIDEO 2

The screen display changes as shown in these figures.



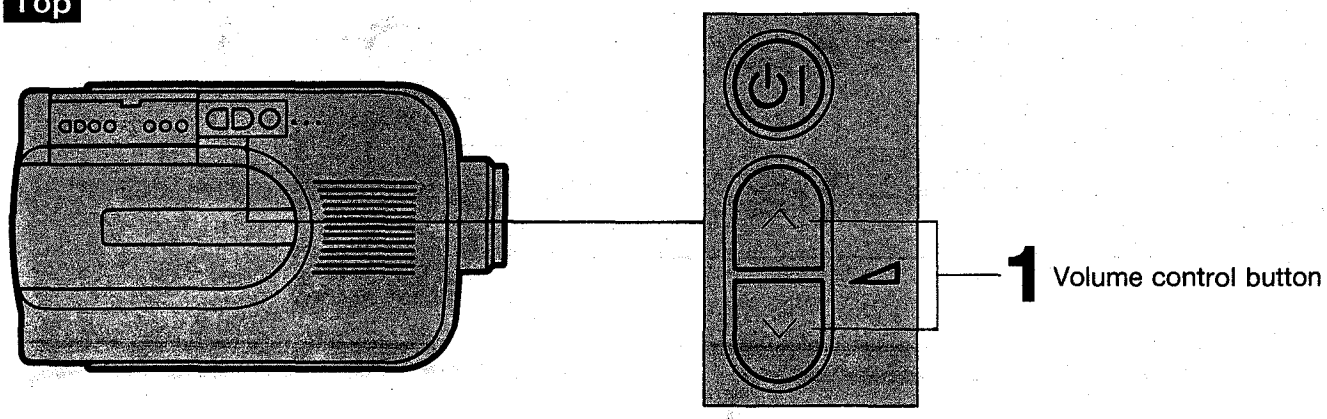
Notes:

- This projector is equipped with three video input systems: S-video, Video-1, and Video-2.
- To choose between these systems, press the A/V button to select input from either the VIDEO-1 (S-VIDEO given priority) or the VIDEO-2 terminals.

Picture and Volume Control

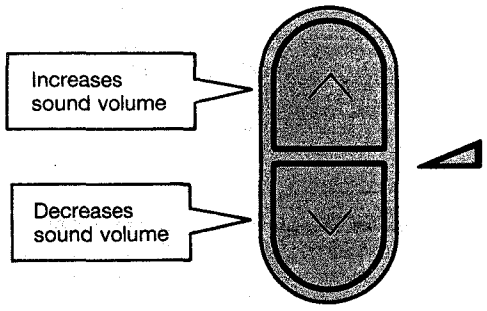
- This projector's picture is set to standard specifications at the factory. However, you can adjust it to suit your own preferences using the VIDEO ADJUST buttons.
- The positions of the picture settings are committed to memory when set.

Top

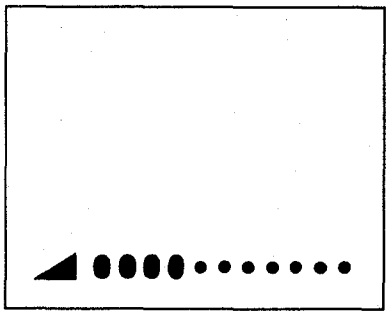


1 Adjusting the Volume

Press the Volume control button.



On Screen Display



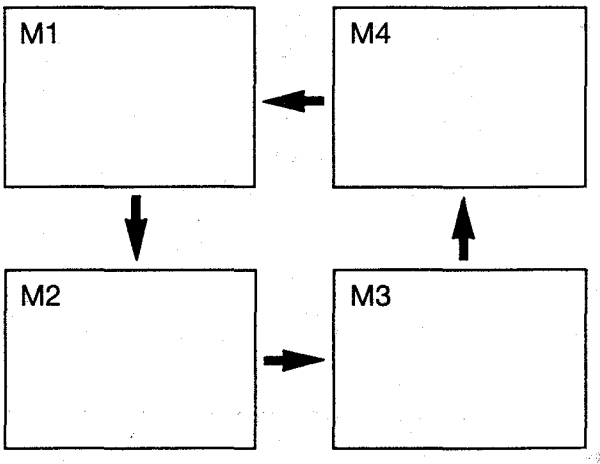
The number of segments (0-16) displayed increase or decrease as the volume is raised or lowered.

2 Selecting the MEMORY

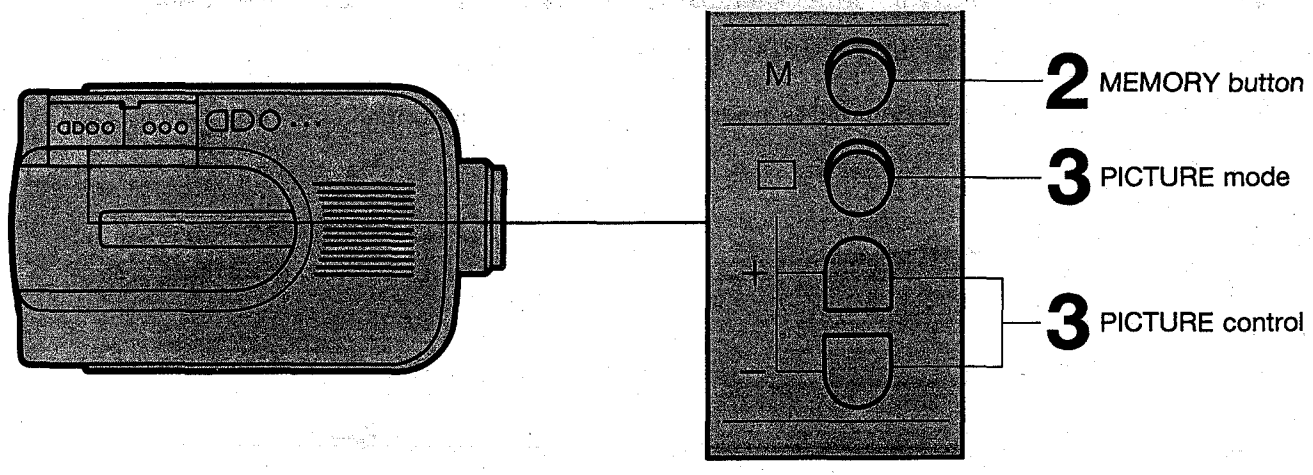
Press the MEMORY button.

- When the MEMORY button is pressed, the present settings will be displayed on the screen for about a few seconds.

On Screen Display

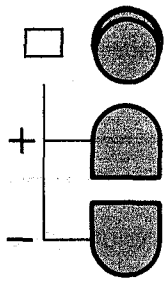


Controls inside cover

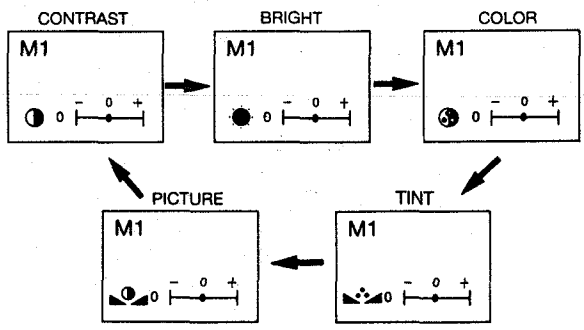


3 Picture adjustments

Use the PICTURE MODE and PICTURE CONTROL buttons to set the picture to suite your preferences.



The picture modes change as shown below when the Picture mode button is pressed.
(M1 shows a memory number.)



- Select the mode that is to be adjusted and use the PICTURE control buttons to make the adjustments.
  *The modes are displayed on the screen for about a few seconds. The adjustments have to be made while the screen is displayed.

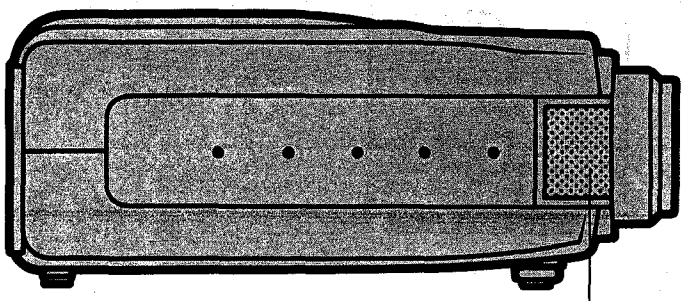
Tint setting can only be adjusted when receiving NTSC signal.

Maintenance

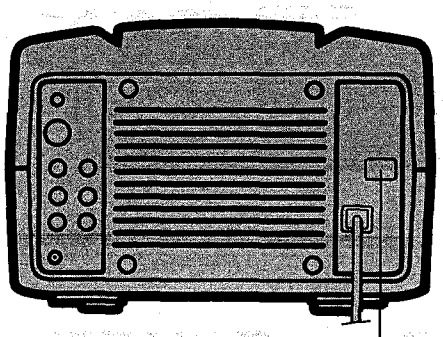
Air filter cleaning

■ The air filter should be cleaned about every 100 hours. Clean the filter more often when the projector is used in a dusty location.

• Have your dealer replace the filter when it is no longer possible to clean it.



Cooling fan (filter)



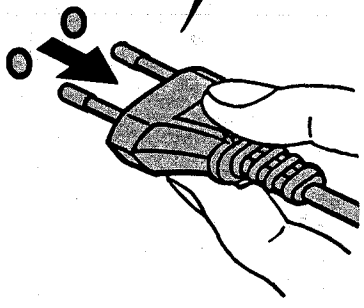
MAIN POWER switch

1 Turning off the main power

Turning off the power with the main power switch.

2 Unplugging the power cord

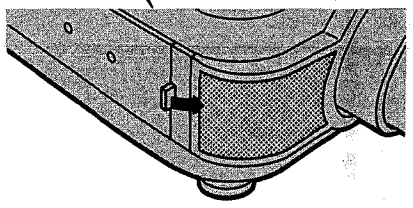
Unplug the power cord.



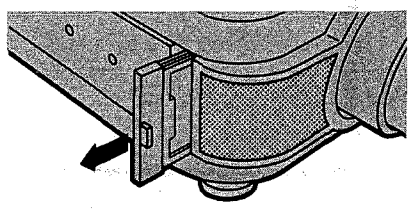
In some areas, the plug may not resemble the one shown in the illustration.

3 Remove the air filter.

To remove the air filter first grasp the protruding tab and move it in the direction of the arrow.

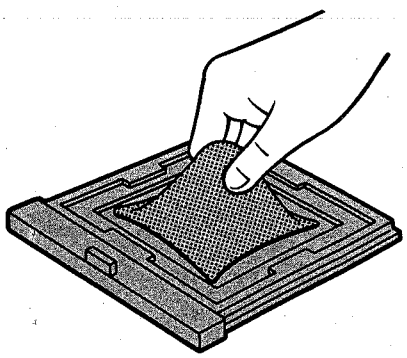


Then, pull the filter straight out, as indicated by the arrow.



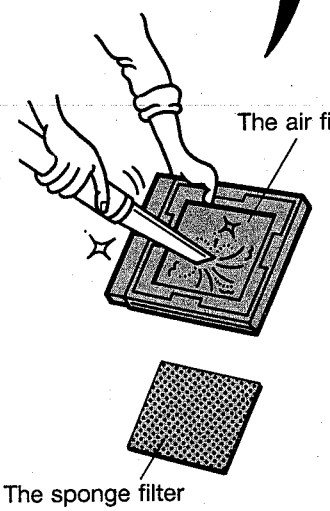
4 Remove the sponge filter.

Remove the sponge filter by grasping.



5 Clean the air filter.

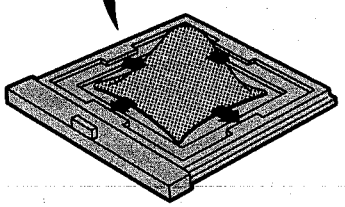
Clean the dust off the air filter and the sponge filter with a vacuum cleaner.



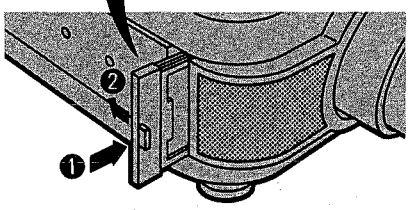
If the filter is very dirty, wash it with a neutral detergent dissolved in cool or lukewarm water, then leave the filter in the sun to dry.

6 Replace the air filter.

Replace the sponge filter in the air filter as before.



Rettach the air filter.



Align the ridges on the top and botton of the air filters with the grooves in the projector body, and slide in.

Lamp

■The projector's lamp has a limited operating life.

When the lamp is nearly burned out, the picture and colour quality deteriorate. In this event, have the lamp replaced by qualified service personnel.

Replacing the projector lamp requires special technical expertise and should be performed by your local Sharp dealer or Sharp Service Station.

Warning lamps

■This projector is equipped with warning indicators that go on when an abnormal condition occurs.
■There are two warning indicators in the projector: the temperature warning lamp and lamp replacement indicator.
■If the projector malfunctions, the temperature warning lamp or the lamp replacement indicator will light red and the power is turned off. Perform the following procedures when you have turned off the main power switch.

Warning lamp	Symptom	Potential problems	Countermeasures
Temperature	The temperature inside is too high.	• The air vents are blocked.	• Install the projector in an appropriate location.
		• The air filter is clogged.	• Clean the filter as described on page 17 and 18.
		• The cooling fan is defective. • Any of the internal circuits are defective.	• Turn in the projector for service.
Projector lamp	The projector lamp does not light.	• The projector lamp has reached the end of its life. • The projector lamp circuit is defective.	• Turn in the projector for service.

NOTE:

If the temperature warning lamp lights up red and the power cuts off, the projector will enter stand-by mode.
After turning off the projector, be sure to wait until the unit's internal temperature has sufficiently lowered before turning it on again (at least 5 min.).

Before Calling for Service

No picture	• The projector is not plugged into the mains supply. • The MAIN POWER switch is set to off. • The BRIGHT (–) control is set to the minimum position.
Colour is poor or faded	• Check that the COLOUR (+) and (–) controls are properly adjusted.
Picture is blurred	• Adjust the focus • The projection distance is too long or short to allow for proper focus.
An unusual sound is occasionally heard from cabinet	• If picture is normal, the sound is due to cabinet shrinkage caused by temperature changes. This will not effect operation.
Maintenance indicator lights up	• Refer to "Warning lamps" on pages 19.
No sound	• Check if the volume control is turned all the way down (page 15). • Check to make sure that the wires at the back of the LCD projector are properly connected (pages 10~11).

Specifications

System	PAL/SECAM/NTSC3.58/NTSC4.43 SYSTEM
Projection image size (diagonal)	76 cm (30 inch) at a distance of approx 1 m 152 cm (60 inch) at a distance of approx 2 m
LCD panel	9.1 cm (3.6") Twin-TFT Active Matrix panel
No. of pixels	RGB Trio 100,386 pixels (234(V)×429(H))
Lens	F2.8 f=123 mm
Contrast ratio	100:1
Horizontal resolution	PAL: More than 320 lines, NTSC: More than 350 lines
Operating temperature	5°C~40°C
Storage temperature	−20°C~55°C
Power source	AC 200~240V 50/60Hz
Audio output	3 W (Monoural)
Speaker	8 cm (Round speaker)
Power consumption	175W
Dimensions (W×H×D)	215×149×385 mm
Weight	4.3 kg (9.51 lbs)
Accessories	Lens cover: 1 pc. Air filter: 1 pc. (installed) 21-pin RCA conversion adaptor: 1 pc. (In some areas, this adaptor is not supplied with the unit.)

Our Projector uses LCD (Liquid Crystal Display) panel. This very sophisticated panel contains total of 301,158 dots (RGB Trio 100,386 Pixels) TFT's (Thin Film Transistors). As with any high technology electronic equipment such as large screen TVs, video systems and/or video cameras, there are certain acceptable tolerances that the equipment must conform to.

This will not effect the picture quality or the life expectancy of the unit.

*Specifications are subject to change without notice.